

**Listing of Claims:**

1. (Currently Amended) A magnetic sensor comprising:

a pair of magnetic detecting elements connected in series with each other, one of which serves as a sensing portion ~~made~~ adapted to face a magnetic detecting medium having a magnetic substance printed thereon, and the other of which serves as a temperature-compensating portion that is not affected by ~~magnetism of the magnetic substance printed on~~ said magnetic detecting medium;

a magnet that gives magnetic biases to said pair of magnetic detecting elements; and

a detection circuit that applies DC voltage to between both ends of said pair of serially-connected magnetic detecting elements and detects a potential change of a common connection point of said magnetic detecting elements;

wherein said detection circuit detects a concentration of the magnetic substance printed on said magnetic detecting medium based on the detected potential change.

2. (Currently Amended) A magnetic sensor comprising:

first and second fixed resistors, ~~connected in parallel with an output line of DC power source~~ each of which has a first end connected with a first side of an output line of a DC power source;

10 a first magnetic detecting element ~~connected in series with~~  
~~said first fixed resistor~~ which has a first end connected with a  
second side of the output line of the DC power source, and a  
second end connected with a second end of said first fixed  
resistor to function as a sensing portion ~~made~~ adapted to face a  
magnetic detecting medium having a magnetic substance printed  
thereon;

15 a second magnetic detecting element ~~connected in series with~~  
~~said second fixed resistor~~ which has a first end connected with  
the second side of the output line of the DC power source, and a  
second end connected with a second end of said second fixed  
resistor to function as a temperature-compensating portion that  
is not affected by ~~magnetism of~~ the magnetic substance printed on  
said magnetic detecting medium;

20 a magnet that gives magnetic biases to said first and second  
magnetic detecting elements; and

a detection circuit that detects a potential change between  
a connection point of said first fixed resistor and said first  
magnetic detecting element and ~~that~~ a connection point of said  
25 second fixed resistor and said second magnetic detecting element;  
wherein said detection circuit comprises a single  
differential amplifier, and detects a concentration of the  
magnetic substance printed on the magnetic detecting medium based  
on the detected potential change.